

Applicant: P. Stark et al.
Application No. 10/814,293

Docket No. 33976.00003

LISTING OF CLAIMS

1. (Previously presented) A multiparticulate bisoprolol formulation for once-daily oral administration, each particle comprising a core of bisoprolol or a pharmaceutically acceptable salt thereof surrounded by a polymeric coating, said coating comprising at least one enteric polymer coating material selected from the group consisting of cellulose acetate phthalate, cellulose acetate trimaleate, hydroxyl propyl methylcellulose phthalate, polyvinyl acetate phthalate, Eudragit poly acrylic acid, Eudragit S, Eudragit L, polyvinyl acetaldithylamino acetate, hydroxypropyl methylcellulose acetate succinate, cellulose acetate trimellitate and shellac; said polymeric coating being effective to achieve an initial lag of bisoprolol release in vivo of at least 4-6 hours following administration and thereafter maintaining therapeutic concentrations of bisoprolol for the remainder of the twenty-four hour period.

2. (Original) A multiparticulate bisoprolol formulation according to claim 1, wherein the polymeric coating is effective to prevent quantifiable bisoprolol plasma concentrations in vivo for a period of at least 3-6 hours.

3. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, which contains a pharmaceutically acceptable salt of bisoprolol.

4. (Original) A multiparticulate bisoprolol formulation according to claim 3, wherein the salt is bisoprolol hemifumarate.

5. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, which has an in vitro dissolution profile which when measured in a U.S. Pharmacopoeia 2 Apparatus (Paddles) in phosphate buffer at pH 6.8 at 37°C. and 50 rpm substantially corresponds to the following: (a) from 0% to 10% of the total bisoprolol is released after 2 hours of measurement in said apparatus, (b) from 0% to 50% of the total bisoprolol is released after 4 hours of measurement in said apparatus; and (c) greater than 50% of the total bisoprolol is released after 10 hours of measurement in said apparatus.

6. (Previously Presented) A multiparticulate bisoprolol formulation according to claim 1, which has an in vitro dissolution profile which when measured in a U.S.

Pharmacopoeia 1 Apparatus (Baskets) at 37°C. and 50 rpm in 0.01 N HCl for the first 2 hours followed by transfer to phosphate buffer at pH 6.8 for the remainder of the measuring period substantially corresponds to the following: (a) from 0% to 10% of the total bisoprolol is released after 2 hours of measurement in said apparatus; (b) less than 50% of the total bisoprolol is released after 4 hours of measurement in said apparatus; and (c) greater than 20% of the total bisoprolol is released after 10 hours of measurement in said apparatus.

7. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, wherein a sealant or barrier layer is applied to the core prior to the application of the polymeric coating.

8. (Original) A multiparticulate bisoprolol formulation according to claim 7, wherein the sealant or barrier is selected from hydroxypropyl methylcellulose, hydroxypropyl cellulose, hydroxypropyl ethylcellulose and xanthan gum.

9. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, wherein the bisoprolol active ingredient is applied to a non-pareil seed having an average diameter in the range of 0.4-1.1 mm.

10. – 14. (Cancelled)

15. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, wherein the polymeric coating includes one or more soluble excipients so as to increase the permeability of the coating.

16. (Original) A multiparticulate bisoprolol formulation according to claim 15, wherein the or each soluble excipient is selected from a soluble polymer, a surfactant, an alkali metal salt, an organic acid, a sugar and a sugar alcohol.

17. (Previously presented) A multiparticulate bisoprolol formulation according to claim 15, wherein the soluble excipient is selected from polyvinyl pyrrolidone, polyethylene glycol and mannitol.

18. (Previously presented) A multiparticulate bisoprolol formulation according to claim 15, wherein the soluble excipient is used in an amount of from 1% to 10% by weight, based on the total dry weight of the polymer.

19. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, wherein the polymeric coating includes one or more auxiliary agents selected from a filler, a plasticiser and an anti-foaming agent.

20. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, wherein the coating polymer is coated to 10% to 100% weight gain on the core.

21. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, wherein the coating polymer is coated to 25% to 70% weight gain on the core.

22. (Previously presented) A multiparticulate bisoprolol formulation according to claim 1, wherein a sealant or barrier layer is applied to the polymeric coating.

23. (Original) A multiparticulate bisoprolol formulation according to claim 22, wherein the sealant or barrier is selected from hydroxypropyl methylcellulose, hydroxypropyl cellulose, hydroxypropyl ethylcellulose and xanthan gum.

24. (Previously presented) An oral dosage form containing a multiparticulate bisoprolol formulation according to claim 1, which is in the form of caplets, capsules, particles for suspension prior to dosing, sachets or tablets.

25. (Original) An oral dosage form according to claim 24, which is in the form of tablets selected from disintegrating tablets, fast dissolving tablets, effervescent tablets, fast melt tablets and mini-tablets.

26. (Previously presented) A multiparticulate bisoprolol formulation of claim 1, wherein the bisoprolol comprises the (S)-enantiomer of bisoprolol.

27. (Previously presented) A multiparticulate bisoprolol formulation of claim 2, wherein the bisoprolol comprises the (S)-enantiomer of bisoprolol.

28. (Previously presented) A multiparticulate bisoprolol formulation of claim 3, wherein the bisoprolol salt comprises the (S)-enantiomer of bisoprolol.

29. (Previously presented) A multiparticulate bisoprolol formulation of claim 4, wherein the bisoprolol hemifumarate comprises the (S)-enantiomer of bisoprolol.

30. (Previously presented) A multiparticulate bisoprolol formulation of claim 6, wherein the bisoprolol comprises the (S)-enantiomer of bisoprolol.

31. (Previously presented) A multiparticulate bisoprolol formulation of claim 26 comprising about 1, 1.25, 2, 2.5, 3, 3.75, 4, 5, 7.5, 10, or 15mg of (S)-bisoprolol.

32. (Previously presented) A multiparticulate bisoprolol formulation of claim 31 comprising about 1.25, 2.5, 5, or 7.5mg of (S)-bisoprolol.